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## The H-Bomb and World Order

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# The H-Bomb and World Order

BY H. A. BETHE, PETER KIHSS and WILLIAM W. KAUFMANN

## The Hydrogen Bomb*

BY H. A. BETHE. Hans A. Bethe, from 1943 to 1946 chief of the theoretical physics division at the Los Alamos Scientific Laboratory, is professor of physics at Cornell University.

ON January 31, 1950 the President of the United States decided that this country should develop hydrogen bombs. I believe that this decision settled only one question and raised a hundred in its place. What will the bomb do to our strategic position? Will it restore to us the superiority in armament that we possessed before the Russians obtained the A-bomb? Will it improve our chances of winning the next war if one should come? Are our cities less likely to be destroyed in that war? Will it serve to avert or postpone war itself? How will the world look after a war fought with hydrogen bombs?

### EFFECTS OF H-BOMB

What would be the effects of a hydrogen bomb? Dr. Louis Ridenour, in the *Scientific American* of March 1950, pointed out that its power would be limited only by the amount of heavy hydrogen that could be carried in the bomb. A bomb carried by a submarine, for instance, could be much more powerful than one carried by a plane. Let us assume an H-bomb releasing 1,000 times as much energy as the Hiroshima bomb. At Hiroshima the radius of severe destruction by blast was one mile; so an H-bomb would cause almost complete destruction of buildings up to a radius of 10 miles. By the blast effect alone a single bomb could obliterate almost all of Greater New York or any of the largest cities of the world. In addition, there would be the heat effects. About 30 per cent of the casualties in Hiroshima were caused by flash burns; fatal burns were frequent up to distances of 4,000 to 5,000 feet. The H-bomb could burn unprotected people to death over a radius of about 20 miles.

Besides heat and blast there would be nuclear radiations. They are of two kinds: those emitted during the explosion itself (gamma rays and neutrons) and those emitted afterwards by radioactive atoms. The former would presumably reach only persons who would be likely to be killed anyway by the blast, flash burn or conflagrations caused by the H-bomb. Radioactivity, on the other hand, can be an added danger because it persists after the explosion. The radioactive atoms may be formed either in the bomb itself or (in greater number) by absorption of the neutrons emanating from the bomb in the bomb case, the soil or the air. The most dangerous of these is the possibility, pointed out by Dr. Leo Szilard, of purposely designing the bomb case in such a way that it would become highly radioactive in the explosion.

### MORAL PROBLEMS

In assessing the meaning of the hydrogen bomb, I believe the most important question is the moral one: Can we who have always insisted on morality and human decency between nations, as well as inside our own country, introduce this weapon of total annihilation into the world? The usual argument, heard in the frantic week before the President's decision and frequently since, is that we are fighting against a country which denies all the human values we cherish, and that any weapon, however terrible, must be used to prevent that country and its creed from dominating the world. It is argued that it would be better for us to lose our lives than our liberty, and with this view I personally agree. But I believe this is not the choice facing us here; I believe that in a war fought with hydrogen bombs we would lose not only many lives but all our liberties and human values as well, whether we win or lose the war.

Whoever wishes to use the hydrogen bomb in our conflict with the U.S.S.R., either as a threat or

*This article is a condensed version of an article by Professor Bethe which appeared in the *Scientific American* of April 1950 and in the *Bulletin of Atomic Scientists* of April 1950.

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in actual warfare, is adhering to the old fallacy that the ends justify the means. The fallacy is the more obvious because our conflict with the U.S.S.R. is mainly about means. It is the means that the U.S.S.R. is using, both in dealing with her own citizens and with other nations, that we abhor; we have little quarrel with the professed aim of providing a decent standard of living for all. We would invalidate our cause if we were to use in our fight means that can only be termed mass slaughter.

We believe in personal liberty and human dignity, the value and importance of the individual, sincerity and openness in the dealings between men and between nations, prosperity for all and peace based on mutual trust. All this is in great contrast to the methods which the Soviet government uses in pursuing its aims and which it believes necessary in the "beginning phase" of communism—which by now has lasted thirty-three years. Regimentation of the private lives of all citizens, systematic education in spying upon one's friends, ruthless shifting of populations, inhuman treatment of prisoners in labor camps, suppression of free speech, falsification of history in dealing both with their own citizens and with other nations, violation of promises and treaties and the distorted interpretations offered in excuse of these violations—these are some of the methods of the U.S.S.R. which are hateful to the people of the Western world. But if we wish to fight against these methods, *our* methods must be clean.

**The announcement last January that the United States was going ahead with the production of hydrogen bombs raised many questions of far-reaching importance in the realms of policy and morals. The Research Department of the Foreign Policy Association has asked a distinguished physicist, a journalist who has had long experience in covering developments in the United Nations and a political scientist to discuss the problems and prospects of the H-bomb.**

We believe in peace based on mutual trust. Shall we achieve it by using hydrogen bombs? Shall we convince the Russians of the value of the individual by killing millions of them? If we fight a war and win it with H-bombs, what history will remember is not the ideals we were fighting for but the methods we used to accomplish them. These methods will be compared to the warfare of Genghis Khan, who ruthlessly killed every last inhabitant of Persia.

An all-out war fought with hydrogen bombs would mean the obliteration of all large cities and probably of many smaller ones, and the killing of most of their inhabitants. After such a war, nothing that resembles present civilization would remain. The fight for mere survival would dominate everything. The destruction of the cities might set technology back a hundred years or more. In a generation even the knowledge of technology and science might disappear, because there would be no opportunity to practice them. Indeed it is likely that technology and science, having brought such utter misery upon man, would be suspected as works of the devil, and that a new Dark Age would begin on earth.

We know what physical destruction does to the moral values of a people. We have seen how many Germans, already demoralized by the Nazis, lost all sense of morality when, during and after the war, the bare necessities of life, food, clothing and shelter were lacking. Democracy and human decency were empty words; there was no reserve strength left for such luxuries. If we have learned any lesson from the aftermath of World War II, it is that physical destruction brings moral destruction, often taking the form of strict regimentation.

We have also learned that prosperity is the best shield against communism and dictatorship, and in this knowledge we have poured billions into Western Europe to restore its economy. This generosity has won us more friends than anything else we have done. But after the next war, if it were fought with atomic and hydrogen bombs, our own country would be as grievously destroyed as Europe and the U.S.S.R., and we could no longer afford such generosity. It would be everyone for himself, and everyone against the other.

It is ironical that the United States, of all countries should lead in developing such methods of warfare. The military methods adopted by this nation at the outset of World War II had the aim of conserving lives as much as possible. Determined not to repeat the slaughter of World War I, during which hundreds of thousands of soldiers were sacrificed in fruitless frontal attacks, the U. S. high command substituted war by machines for war by unprotected men. But the hydrogen bomb carries mechanical warfare to ultimate absurdity in defeating its own aim: In place of one soldier, it kills a hundred noncombatant civilians. Surely it is time for us to reconsider what our real intentions are.

One may well ask: Why advance such arguments with reference to the H-bomb and not atomic

bombs in general? Is an atomic bomb moral and a hydrogen bomb immoral, and if so, where is the dividing line? I believe there is a deep feeling in this country that the use of atomic bombs in Japan was a mistake, that these bombs should be eliminated from national armaments. This feeling, indeed, was one of the prime reasons for President Truman's offer of international control in 1945. We know that the negotiations for control have not led to success as yet. But our inability to eliminate atomic bombs is no reason to introduce a bomb which is a thousand times worse.

When atomic bombs were first introduced, there was a general feeling that they represented something new, that the thousandfold increase of destructive power from blockbuster to atom bomb required and made possible a new approach. The step from atomic to hydrogen bombs is just as great again, so we have again an equally strong reason to seek a new approach. We have to think how we can save humanity from this ultimate disaster. And we must break the habit, which seems to have taken hold of this nation, of considering every weapon as just another piece of machinery and a fair means to win our struggle with the U.S.S.R.

## CAN RUSSIA PRODUCE H-BOMBS?

I have reviewed the moral issues that should deter us from using hydrogen bombs even if we were sure that we alone would have them and that they would contribute to our victory. As Ridenour explained, the situation is rather the opposite. We can hardly expect to have a monopoly on hydrogen bombs. If we ever had any illusions about this, the events of the past few months should have destroyed them. The U.S.S.R. has the atomic bomb. It was undoubtedly helped in its efforts by the secret information it received from Klaus Fuchs, which presumably included many of the vital "secrets" of our project. But knowing how a group of scientists put the bomb together would not by itself enable a nation to make one. If Fuchs had given his information to Spain for instance, it would hardly have been understood; it would presumably not have been used, and even if used it would almost certainly not have led to success. The prime requirements for the job still are a group of highly capable scientists, a country determined to make the weapon and a great industrial effort. We know now, if we ever doubted it, that the U.S.S.R. has all of these.

The Russian scientists' obvious competence will presumably again bring success to the Russians when they try to develop the H-bomb. Their decisions and their successes are not independent of our own, even without espionage. Our decision to make the H-bomb, which showed that we considered the project feasible, may well have prompted them to take the same decision. For this reason I think that our decision, if taken at all, should have been taken in secret. Public statements by the advocates of the H-bomb, in an effort to exert pressure on the President, made this impossible. If the Russians were already working on the H-bomb before our decision, they will now have increased their effort.

It is impossible to predict whether we or the Russians will have the hydrogen bomb first. We like to assume that we shall. If so, I refuse to believe that the United States would start a preventive war. That would violate all the fundamental beliefs of this nation, and that these beliefs are still strong is shown by the history of the past four years: although we had a monopoly of the atomic bomb we did not start a war. Clearly, then, the time will come when both the U.S.S.R. and this country will have H-bombs. Then this country will be much more vulnerable than the U.S.S.R. As Ridenour explained, we have many more large cities that would be inviting targets, and many of these lie near the coast so that they could be reached by submarine and perhaps a relatively short-range rocket. I think it is therefore correct to say that the existence of the hydrogen bomb will give us military weakness rather than strength.

But, say the advocates of the bomb, what if the Russians obtain the H-bomb first? If the Russians have the bomb, Professor Harold Urey of the University of Chicago argued in a speech just before the President's decision, they may confront us with an ultimatum to surrender. I do not believe we would accept such an ultimatum even if we did not have the H-bomb, or that we would need to. I doubt that the hydrogen bomb, dreadful as it would be, could win a war in one stroke. Although it might devastate our cities and cripple our ability to conduct a long war with all modern weapons, it would not seriously affect our power for immediate retaliation. Our atomic bombs, whether "old style" or hydrogen, and our planes would presumably be so distributed that they could not all be wiped out at the same time; they would still be ready to take off and reduce the country of the aggressor to at least the same state as our own. Thus the large bomb would bring untold destruction but no decision. I believe that "old-fashioned" A-bombs would be sufficient to even the score in case of an initial Soviet attack with H-bombs on this country. In fact, because of the greater number available, A-bombs may well be more effective in destroying legitimate military targets, including production

centers. H-bombs, after all, would be useful only against the largest targets, of which there are very few in the U.S.S.R.

### U.S. PLEDGE URGED

So we come finally to one reason, and only one, that can justify our building the H-bomb—that is, to deter the Russians from using it against us, if only for fear of our retaliation. Our possession of the bomb might possibly put us in a better position if the U.S.S.R. should present us with an ultimatum based on their possession of it. In other words, the one purpose of our development of the bomb would be to prevent its use, not to use it.

If this is our reason, we can contribute much to the peace of the world by stating this reason openly. This could be done in a declaration, either by Congress or by the President, that the United States will never be the first to use the hydrogen bomb, that we would employ the weapon only if it were used against us or one of our allies. A pledge of this kind was proposed in a press statement by twelve physicists, including myself, on February 4. It still appears to me as a practical step toward relief of the international tension and toward freedom from fear for the world. The pledge would indicate our desire to avoid needless destruction; it would reduce the likelihood of the use of the hydrogen bomb in the case of war; and it would largely eliminate the danger that fear of the H-bomb itself would precipitate a war.

If we do not make this pledge, the hydrogen bomb would almost surely be used. Once war broke out, our military leaders would be blamed, in the absence of a pledge, if they did not immediately initiate a full-scale hydrogen-bomb attack. But if such a pledge existed, they would be blamed if they did use the bomb first. To be sure, the pledge might not be relied on by our adversaries, but at least it would create a doubt in their minds. They might decide to wait and see, rather than provoke the certain use of the bomb by dropping the first one. Moreover, if they started a war, they would probably hope to capture our country intact rather than to conquer a heap of rubble.

We have proposed unilateral action rather than an international treaty on this pledge. We have done this because negotiations with the U.S.S.R. are known to be long and frustrating. A unilateral pledge involving only this country could be made quickly, and it could not again lead to the disappointment of a breakdown of negotiations. On the other hand, we certainly would not want to exclude a pact with the U.S.S.R. on this subject. This might be the first point on which the two countries could agree, and this in itself would be important.

Obviously the pledge can only be a first step. What we really want is a workable agreement on atomic energy, as part of our efforts toward a lasting peace.

Efforts of the United Nations and various plans proposed by citizens and agencies of the United States are discussed in another part of this *Report.* All of these prove the vigorous desire for peace by agreement rather than peace through military action. At the same time, the Moscow correspondent of *The New York Times,* Mr. Harrison Salisbury, indicated in a series of dispatches in February that the Russians, too, were now interested in negotiations. It would seem to be very much worth our while to find out whether they are serious in this intention.

The situation in atomic energy has changed, both because of the Soviet development of the A-bomb and because of our decision on the H-bomb. To leave atomic weapons uncontrolled would be against the best interests of both countries. If we can negotiate seriously with the U.S.S.R., the scope of the negotiations should probably be as broad as possible. But the situation would be greatly eased even if we could agree only to eliminate the greatest menace to civilization, the hydrogen bomb.

## The Atom Bomb in the United Nations

BY PETER KIHSS. Mr. Kihss, a reporter for the New York *Herald Tribune,* has been covering United Nations atomic negotiations since their start.

UNITED NATIONS atomic negotiations ground to at least a temporary halt when on January 19, 1950, Russian Deputy Foreign Minister Yakov A. Malik stalked out of General Assembly-sponsored talks among the Soviet Union, United States, Britain, France, China and Canada. The Russians walked out not because of the prolonged atomic deadlock—but over the entirely separate issue of Chinese Nationalist participation.

This incident epitomized the story. For, to the U.S.S.R., atomic energy appears to have been always just one of many political problems—usable for propaganda or for bargaining, but certainly not an "absolute weapon" or potential destroyer of civilization.

The United States, by contrast, regarded the

atomic problem as "a choice between the quick and the dead," to quote the opening words of Bernard M. Baruch, American delegate to the UN Atomic Energy Commission, on June 14, 1946. The United States anticipated "international cooperation or international disintegration." It offered what it hoped might become a "pattern for salvation"—to lead to control of other weapons, an end of wars, new hope and "a giant help to humanity."

The American atomic proposal has been the most positive United States effort yet made in the UN. It has enlisted the support of every nation which has voted on it, except for the five-nation Soviet bloc and three abstainers—Yugoslavia, the Union of South Africa and Israel. It has forced the Soviet Union to give ground, at least on paper, and to offer alternatives far beyond anything Moscow originally offered—although, in the majority's opinion, still not enough.

## ATOMIC DEADLOCK

The effort must be kept up both for moral considerations and because of the possibility that some day an agreement may be achieved. But looking at the problem realistically, it now appears that any agreement will have to be bound up with other aspects of a political settlement—rather than envisaged as a single pattern for salvation.

American pledges that we would strive to make the atom "a powerful and forceful influence towards the maintenance of world peace" were voiced by President Truman on the day the first uranium bomb used in warfare was hurled on Hiroshima—August 6, 1945. On November 15, 1945 President Truman, British Prime Minister Clement Attlee and Canadian Prime Minister W. L. Mackenzie King proposed a United Nations Atomic Energy Commission which would make recommendations for promoting peaceful uses of atomic energy, setting up controls, eliminating national atomic weapons and providing inspection and other safeguards —a program to take effect by stages.

First hints that the atom did not loom so dramatically in Russian eyes appeared during the meeting of the Council of Foreign Ministers in Moscow that December. The Kremlin proposed to place the British-American proposal for a UN atomic commission at the end of an agenda occupied also with the problems of Japan, China, Korea, Romania and Bulgaria. Eventually, however, the Russians joined the Americans, British, French, Chinese and Canadians in submitting a resolution for a UN commission, and on January 24, 1946 the first UN General Assembly in London gave this resolution unanimous approval.

Meanwhile, the United States, then the sole possessor of atomic weapons, set up a committee to work out a basic international plan to be used as a starting point for public discussion. This committee was composed of Dean Acheson, chairman; John J. McCloy, Dr. Vannevar Bush, Dr. James B. Conant and Major General Leslie R. Groves, with consultants including David E. Lilienthal, chairman; Chester I. Barnard, Dr. J. Robert Oppenheimer, Dr. Charles Allen Thomas and Harry A. Winne. On March 28, 1946 the unanimous Acheson-Lillienthal report was made public.[1]

The more the experts had looked at the facts, they said, the more hopeful they had become. Some other nation with industrial development, scientific resources and raw materials could indeed develop atomic armaments—perhaps in five years, perhaps a year earlier because of the release of information during control talks. Much of the atomic process, in truth, was identical, whether used for peaceful ends or for weapons.

But the problem, they found, had "definable boundaries." The lone substances from which large-scale atomic energy could be derived were uranium and thorium. High concentrations of these elements occur "only under very special geologic conditions."

The consultants had first thought in terms of control by inspection. But this alone would be a herculean task, they said; in a single diffusion plant, nationally operated, it might take three hundred inspectors to guard against illicit diversion of nuclear fuels. It would be difficult to recruit high-type personnel for "inspection and similar police-like methods." As long as nations could carry on dangerous atomic activities, national rivalries would be inevitable.

But suppose the major atomic activities were entrusted to an international agency. Then the control personnel would be working on pioneer development, and their jobs would look far more inviting. The problem of detecting illegal activities would be simplified, for it would be illegal to possess any uranium or operate any large atomic plants without specific international sanction. There would be no arguments about the way a nation might be running dangerous plants, for nations would have none.

So the Acheson-Lilienthal report proposed an affirmative Atomic Development Authority to control the world's supplies of uranium and thorium, to take over and run such plants as the Hanford

1. "A Report on the International Control of Atomic Energy, March 16, 1946," Department of State, Publication No. 2498.

plutonium reactors and the Oak Ridge Uranium-235 separation mills, and to spread out such operations—"intrinsically dangerous" to peace—over the globe. The authority would carry on research; it would license nondangerous activities, such as the use of tracers and small reactors; and it would inspect for compliance. Stockpiles would be kept as low as possible. If, then, some nation seized atomic facilities, at least all would have an equal start, and a year or more would elapse before any nation could achieve important quantities of atomic weapons.

To this plan Mr. Baruch, first American UN atomic delegate, added insistence on swift, sure punishment of violators. The United States, he told the first UN Atomic Energy Commission meeting June 14, 1946, had attained an "absolute weapon." It might be "several years" before another country could produce atomic bombs. The United States stood ready to "dispose" of its atomic weapons. It was ready to join an international authority to operate all potentially dangerous atomic activities and to license and inspect all others.

But other nations must do likewise, and there must be enforceable sanctions—more than pious thoughts. "There must be no veto to protect those who violate their solemn agreements not to develop or use atomic energy for destructive purposes," Mr. Baruch declared.

Thus, a rounded-out plan was put before the commission, composed of all the Security Council nations and Canada. But it rapidly became clear that the Soviet Union had far more limited views of the international role. It had its own idea of first things first.

## PROS AND CONS

The opening Soviet statement, June 19, 1946, proposed a draft convention to outlaw atomic weapons. Signatories would pledge to destroy their stockpiles within three months of ratification and to enact national legislation to punish violators within six months. Violation would also be labeled "a most serious international crime against humanity." There was no detailing of UN controls, which were left to be worked out in committee. There was no specific mention of the American proposals. But Russian Deputy Foreign Minister Andrei A. Gromyko announced that any attempt to undermine the Security Council's rule of unanimity—the veto right of the five great powers over any important security action—must be rejected as "incompatible with the interests of the UN."

Political debate swirled around the rival proposals. The United States offered more ideas. In particular, American Memorandum No. 3, on July 12, stressed that elimination of the veto was being sought only in the atomic field, and not on general problems or unforeseeable issues. The memorandum noted Article 51 of the UN Charter insures rights of individual and collective self-defense in case of armed attack. It suggested that "armed attack," in an atomic age, might be defined to include not merely the actual dropping of a bomb "but also certain steps in themselves preliminary to such action."

On July 24 Mr. Gromyko declared "the American proposals, as they are presented now, cannot be accepted by the Soviet Union either as a whole or in their separate parts." They infringed the sovereignty of nations, he said. Inspection could not guarantee peace and security and was "greatly exaggerated in importance." Major reliance, he said, should be placed on UN "cooperation." The Security Council could carry out international enforcement.

Bogged down in arguments over principles, the commission tried another path. A scientific committee was assigned to look into the technical facts. The scientists reported on September 26 that control was technically feasible.

They outlined the steps in obtaining fissionable materials—Uranium-235, Plutonium-239, Uranium-233—from uranium and thorium ores. They noted that the later the phase of atomic energy development, the greater the danger, for nuclear fuels could be swiftly turned into weapons. So carefully did they tread that they shied away from any indication of types of controls—and did not even mention the word "inspection."

Political delegates began joint meetings with the scientists in the control committee to study the safeguards required in each phase. Simultaneously, the third General Assembly opened, and new political hope emerged. Russian Foreign Minister Vyacheslav M. Molotov told Assembly delegates he agreed there should be UN inspection organs for both disarmament and atomic control, free from veto in their work.

The control committee's study led to a report favoring "a single international control agency" in atomic energy, and listed five types of safeguards —accounting, inspection, supervision, management, licensing. Mines and refineries, the report said, might be controlled by inspection, but mere checking of records and flow of materials would not be reliable enough for the later phases. So safety would require actual international management of the plants separating Uranium-235 and manufacturing Plutonium-239 and Uranium-233. Dr. S. P.

Alexandrov, Soviet scientific member, agreed that in the present stage of technical know-how, "managerial control" appeared essential. His only objection noted in the report dealt with air surveys which might touch on nonatomic matters.

Commission membership was to change, as the end of the year would close three members' terms and bring in three new members. Outgoing Egypt, with American backing, proposed a report by the year's end. Mr. Baruch offered a set of "general findings and recommendations" embracing the original American plan, toward which, in fact, the technical studies had been leading. He argued that "time is two-edged," bringing nearer both the hour of danger and yet by familiarity reducing the sense of urgency. He insisted on a veto showdown. Mr. Gromyko protested the speed-up, and some non-Soviet delegates were reluctant to move ahead on the entire front at once. Nevertheless, a first report to the Security Council, including all the basic Baruch principles, was approved on December 30, 1946. Ten nations voted in favor; the Soviet Union and Poland abstained.

Efforts to work out the plan in detail went on through 1947. New proposals sought to limit the powers of the control agency and to protect the interests of all nations. The basic atomic treaty, the new studies said, should set forth principles and even some numerical definitions of production quotas so each nation would know what it could expect atomically in advance. Nuclear fuel output should be held to the minimum for actual beneficial uses. Warrant and authorization procedures for inspection were spelled out so that generally there would be notice to nations for any inspection outside of the agency's own facilities and other declared activities.

## SOVIET PROPOSALS

Soviet proposals were finally emerging and being debated in parallel sessions. In a dozen amendments to the first report the Russians proposed that controls be applied simultaneously from mine to production plant—instead of taking effect by stages. They rejected the plans for international management, unlimited access, licensing and veto elimination for punishments. Mr. Gromyko suspected American attempts to dominate and interfere in the internal affairs and economic life of other nations. The Soviet Union, he said, could not allow "the fate of its national economy" to be handed over to an organ with "a majority on whose benevolent attitude toward the Soviet Union the Soviet people cannot count."

The first positive Soviet control plan was submitted on June 11, 1947. It proposed a commission with international inspectors to make periodic checks of known atomic activities and special investigations in case of suspected violations. The commission could make rules for operation of atomic activities, recommendations to governments on production policies, and recommendations to the Security Council in case of violations. Plants would be operated by nations themselves.

Majority study pronounced these Soviet proposals inadequate. On September 11, 1947 the second report to the Security Council, with the specific proposals carrying forward the basic UN plan, was adopted. Ten nations voted for it, the Soviet Union against, and Poland abstained.

Views were getting more divergent. In its third year, 1948, the commission unsuccessfully discussed the structure of a control agency. Mr. Gromyko dismissed as hypothetical the majority's repeated questions as to how occasional inspection could ever really verify atomic output and avert fear-breeding suspicions. To procedural suggestions that a convention banning atomic weapons might be integrated with a control convention, he asserted the outlawry pact "must be not only signed, but also put into force before the other convention is concluded."

Announcing an "impasse," the third report, by 9 affirmative votes to 2 negative (the U.S.S.R. and the Ukraine), on May 17, 1948 proposed suspending the commission until the General Assembly or the six original sponsoring powers, in consultation, found a basis for agreement. The problem would go to the Assembly "as a matter of special concern."

A Soviet veto blocked a 9-to-2 Security Council approval of the commission reports on June 22, and then the documents were passed on to the Assembly for the first "world town meeting" look at the rival views.

The Assembly, in Paris, found the Soviet Union presenting a new bid—offering to accept simultaneous conventions on prohibition and control. But the Assembly rejected this Soviet proposition and on November 4, 1948 approved the majority plan, by 40 votes to 6. It also called on the commission to reconvene for any practicable work and asked the six sponsoring powers to try consultations as well.

New commission sessions in 1949 simply produced a compilation of the earlier reports, plus an index, along with more recriminations. Six-power talks behind closed doors started on August 9 but got nowhere. Apathy—the dulling edge of time—was taking its effect.

On September 23 President Truman reported an

atomic explosion in the Soviet Union. The fourth General Assembly had just opened. Russian Foreign Minister Andrei Y. Vishinsky declared that the Soviet Union was using atomic energy for large-scale peaceful blasting—and rejected as "devoid of any sense" the idea of quota limits on "tremendous and growing" Soviet needs for atomic production. Nevertheless, he asserted the Soviet Union wanted outlawry of atomic weapons and still agreed to periodic inspection.

Other delegates sought new ideas. Assembly President Carlos P. Romulo of the Philippines offered four suggestions to be explored: (1) a short-term atomic armistice, checked by inspection; (2) an interim prohibition on use of atomic weapons, with safeguards; (3) a compromise to rely more on inspection, while relaxing plans for international ownership and management; (4) an examination of actual peaceful uses to see if present control needs might be simplified.

The Assembly voted, by 49 votes to the Soviet bloc's 5, with 3 abstentions, November 23, 1949 to approve the majority plan once more, while again urging six-power consultations. The six powers met on December 20 and referred General Romulo's proposals, an Indian idea for a UN declaration on atomic rights and duties of states, and other Assembly debate suggestions to their home governments for comment. On January 19, 1950 the talks halted with the Soviet walkout over China.

### NEW LOOK NEEDED

What now? It might be productive to undertake a new UN scientific study to see whether developments since 1946 have altered any of the control factors. It might be worthwhile to appraise present peaceful uses of atomic energy, which might simplify controls for the early years. It would certainly be useful to give the UN a share in promoting distribution of radioactive materials for peaceful works and in publishing results.

But it would be danger and delusion simply to outlaw atomic weapons without providing controls that would seek to block an aggressor's illicit atomic development as much as possible. The atomic problem needs every kind of try—but it also needs caution.

# Disarmament and American Foreign Policy

BY WILLIAM W. KAUFMANN. Dr. Kaufmann, who served with the United States Army Air Force from 1941 to 1945, has been an instructor of political science and a research assistant in the Institute of International Studies at Yale University since 1948.

THE recent decision to attempt the production of a hydrogen bomb has suggested to many thoughtful citizens that current American policy in regard to international control of atomic energy is unsatisfactory, and that fresh alternatives must be devised if the world is to avoid total devastation. Two efforts to articulate a new approach have, in fact, appeared within the year. On February 2 Senator Brien McMahon, Democrat, of Connecticut, outlined a plan which has for its chief purpose international control of atomic energy; four days later Senator Millard Tydings, Democrat, of Maryland, made a plea for a conference among the powers with the object of obtaining a general disarmament convention.

## McMAHON AND TYDINGS PROPOSALS

Senator McMahon opened his speech by admitting that the decision to develop a hydrogen bomb "was dictated by the severe realities of the world which we inhabit today." He then proceeded to examine the general policy alternatives that now confront the United States. The first is the cold war, involving great costs, an armaments race and ever-increasing threats to our liberties. "Arrayed against the choice of such a policy," he argued, "is five thousand years of recorded history, which teaches again and again and again that armaments races lead to war. . . ." The second alternative "consists in moving heaven and earth to stop the atomic armaments race. . . ."[1]

How, and in what direction, does Senator McMahon propose to move heaven and earth? His recommendations fall into three categories. We must find a crack in the Iron Curtain and gain the ear of the Russian people by means of a more effective propaganda campaign. We must devise new proposals for international control of atomic energy, challenge the Kremlin to let these proposals be known to the Russian people, and demand that a meeting of the United Nations be held in Moscow. Finally, we should appropriate $50 billion, or two-thirds of our annual military budget over the next five years, and spend it during that period on "President Truman's Point Four proposal, development of atomic energy everywhere for peace, and general economic aid and help to all countries,

1. *Congressional Record*, Vol. 96, No. 23, p. 1366, col. 3.

including Russia. . . . In exchange . . . we would ask, first, general acceptance of an effective program for international control of atomic energy and, second, an agreement by all countries, enforced through inspection, that two-thirds of their present spending upon armaments be devoted toward constructive ends." Administration of the proposed program would be carried out by the United Nations.[2]

Senator Tydings, by contrast, believes that international control of atomic energy does not afford any real guarantee and that in order to attain security the various powers must disarm "all the way down the line to rifles." Therefore, he requests the President (or, according to a subsequent statement, the United Nations[3]) to summon a conference charged with providing for the general disarmament of all countries by 1954. It should be noted in this connection that the Senator exempts from such a ban certain military contingents and weapons: those required to occupy and police the nations defeated in World War II; those allotted to the United Nations for the purposes of collective security; and those required for the maintenance of law and order within the territories of the signatory states. What their size and equipment shall be, Senator Tydings does not specify.

With these important exceptions, the proposed convention will prohibit "the manufacture, storage and possession of all other weapons, ammunition and munitions of war," and will provide for an "international inspection force authorized and instructed to see that the terms of such world disarmament are rigidly adhered to and carried out. . . ." Senator Tydings does not believe that the people of Russia would oppose such a plan; but if the negotiations should collapse, at least "we will know why we cannot agree. . . . Then we will know what to do in this country."[4]

In the wake of these two proposals, President Truman restated the official American position on disarmament. "We believe," he said on February 22, "that the [Baruch] plan for controlling atomic energy, which has been worked out in the United Nations and has been approved by the overwhelming majority of its members, would be effective. That plan therefore has our support. . . ."[5]

At the moment, then, the American people appear to be confronted with three major alternatives; still others no doubt will be forthcoming. Yet the attractiveness of any one of them should not depend solely upon authoritative statements and random speculation. An analysis of the issues involved in disarmament, and some reference to the behavior of the U.S.S.R. during the past five years, must precede a rational choice of policy.

## WOULD DISARMAMENT END INSECURITY?

The advocates of disarmament may have many objectives, but such a policy is usually advanced in the belief that it will banish insecurity. It is possible, in this connection, to ascertain two types of insecurity: the kind resulting from unwitting fear and mistrust and the kind which appears when two or more states engage in a calculated competition for power. One may argue, for example, that current fears and suspicions in both East and West arise out of previous misunderstandings and from the monopoly by one side of atomic weapons. It is equally possible to maintain that the insecurities of 1950 stem from the aggressive foreign policy of the Soviet Union and the responses of the United States. In the first case, an agreement to disarm might well dispel the atmosphere of suspicion and mistrust; in the second case, disarmament would certainly contribute to that end, but the relinquishment by the aggressive power of its designs would represent the surest solution to the problem.

Whether armaments races be the cause or effect of insecurity, it has become axiomatic that a pledge to disarm, unless accompanied by a system of inspection, is virtually meaningless in an environment of mistrust. President Truman, Senator McMahon and Senator Tydings all agree on this point. But to say as much is only to scratch the surface of the problem. The task of devising an effective system of inspection tested the ingenuity of statesmen in the League of Nations and continues to do so in the United Nations. As of 1950 the problem is by no means solved.

Two points, however, seem clear. First, atomic weapons appear to lend themselves to easier inspection than do the weapons which emerge from conventional and multipurpose industrial processes. And secondly, inspection, even if effective, has limits as a guarantor of security. If ill-defined fears based upon suspicion are at the roots of the armaments race, a pledge to disarm combined with inspection may banish these insecurities. But if the fears result from competition for power, inspection, if accepted at all, will provide only a breathing space. It will indicate that the pledge to disarm is being adhered to, or give the signal when violations occur.

If disarmament combined with inspection affords no guarantee of perfect security, disarmament

2. *Ibid.*, p. 1368, cols. 1-2.
3. See *New York Times*, March 7, 1950.
4. *Congressional Record*, Vol. 96, No. 25, pp. 1534-37.
5. *New York Times*, February 23, 1950.

down to rifles may well alter the present distribution of world power.

In an era when organized military force was the principal manifestation of a nation's power, disarmament of the kind advocated by Senator Tydings might have given an approximation of total security and stability. But now, with the weapons of disruption, subversion and propaganda developed to a high degree of efficiency, one power skilled in their uses may expand all the more efficiently and economically because of the lack of organized military opposition.

These considerations by no means represent an argument against a disarmament convention combined with inspection. They merely suggest the complexity of the problem and the need for careful study. Even so glittering a prospect as total disarmament involves risks that require serious evaluation.

The possibility that a hydrogen bomb may be manufactured hardly alters the basic calculations involved in a policy of disarmament. Certainly such a prospect makes the problem more poignant, but it does not change the conditions under which the abolition of weapons of mass destruction would be acceptable. To argue otherwise is to say that American values and interests are more flexible than we are now prepared to admit.

## U.S. VIEWS ON U.S.S.R.

Such an admission has become increasingly difficult to make in the light of Soviet attitudes over the past five years. Concededly, a certain amount of Russian intransigence could have resulted from the former American monopoly of atomic weapons. But pique, fear and stubbornness hardly explain why the Soviet Union has been so unreceptive to the Baruch proposals in the United Nations. No doubt there were features of those proposals which might have made a suspicious power even more suspicious. Mr. Baruch's injection of the veto issue into the discussion might be termed ill-advised; there was a possibility that the United States might have withdrawn from the control scheme after having gauged the extent of Soviet progress in atomic weapons; and the implications and consequences of international inspection were not worked out in full. But, even allowing for these imperfections, the Kremlin hardly gave serious consideration to the plan. The new-found ability of the Soviet Union to produce atomic bombs and to negotiate as an equal with the United States on this subject—facts which should make the flaws of the Baruch plan less glaring—have not materially altered the Kremlin's attitudes. It is difficult, in other words, to ascribe Soviet participation in the armaments race to fear and suspicion alone.

Indeed, the record of Russia's activities, in the United Nations and elsewhere, and specifically its own disarmament proposals, indicate not fear and suspicion but the desire to expand and a willingness to employ the negotiations on atomic energy for propaganda purposes. On the basis of this record American policy-makers have come to the conclusion that Soviet activities must be met, not with concessions and soft words, but with economic, psychological and military measures of a most elaborate and complicated kind. As a consequence, the United States is now engaged in a massive policy of containment designed to prevent further Soviet expansion. If that goal can be attained without war, the hope is that many outstanding issues may be settled and disarmament begun.

Can it be said, in the face of these considerations, that Senator Tydings and Senator McMahon have offered new and feasible alternatives for the solution of the armaments race? A brief recapitulation of their assumptions must precede any answer to the question.

Senator Tydings argues that to disarm in only one category is to provide not security but delay. Total disarmament, he suggests, will somehow change the situation, presumably by making it impossible for any nation to wage war effectively. Although he believes that the Russian people will be attracted to such a proposal, he does not see what the United States stands to lose even if his expectations are disappointed. In that event, at least, the American people will know what confronts them.

## DANGERS OF OVERSIMPLIFICATION

The impression to be gained from a perusal of the entire Tydings proposal is one of extreme and frightening simplicity. Total disarmament, if it were feasible, might delay war longer than atomic disarmament alone, but total disarmament would hardly make war more or less inevitable. If nations wish to fight they will find ways and means of doing so. And although the Senator himself admits that disarmament must be accompanied by effective inspection, at no point does he define what constitutes effective inspection. Yet it is precisely upon this difficult issue that Russo-American discussions in the United Nations have broken down. The evidence is already imposing that we cannot agree with the Soviet Union about inspection, whether we negotiate on the basis of general disarmament or study the specific and concrete issues involved in atomic disarmament. Further attempts to negotiate, particularly when as ill-defined as

those of Senator Tydings, will hardly improve the chances for an accord. There is, in fact, a possibility that such attempts may do serious damage by playing into Moscow's hands, arousing false expectations and diverting attention from the other pressing issues which now confront the United States. It is simply begging the question to say, as Senator Tydings does, that we will know what to do if the Soviet Union rejects in 1950 the very proposals which, in rather more detailed form, it has been rejecting for approximately four years.

Senator McMahon constructs his proposal out of somewhat different assumptions. He acknowledges the apparent hostility of the Kremlin, cites the need for effective inspection in any disarmament plan, and demands that ways be found of making "new atomic proposals" acceptable to the Soviet Union. Although he has not yet stated what these new atomic proposals should be, he outlines a financial assistance program designed to make them more attractive and advocates a more effective American propaganda campaign. In other words Senator McMahon, unlike Senator Tydings, implies that the Russians are not particularly amenable to what we now define as a sensible point of view. Whether really different atomic proposals will alter their attitude must remain uncertain until they are defined. But to believe that a manipulation of the details of the Baruch plan, combined with an effort to purchase support for that plan and a propaganda campaign, will suddenly produce results is to fly in the face of the evidence of the past four years.

The United States can afford more forceful propaganda devices than it has used in the past, but we should not deceive ourselves that the present division between East and West can be healed by verbal efforts alone. We may wish to embark on an aid program of global proportions, but we would be foolish indeed to think that with it we can buy Soviet acquiescence in our point of view. Senator McMahon seems to forget that the Kremlin had the opportunity to participate in the Marshall Plan and rejected it. Have the stakes of world competition fallen so sharply in value that a renewal of that offer, under another guise, appears more attractive in 1950 than it was in 1947?

Recent events do not indicate that such a depreciation has taken place. The Soviet Union has rejected and, as of this moment, continues to reject the American proposals. Yet, if the hydrogen bomb makes infinitely more desirable the international control of atomic energy, even Senator McMahon does not suggest that our position should be altered except perhaps in detail. Quite clearly, atomic weapons affect the methods which the two great powers employ in their competition, and heighten the risks of the game; but atomic weapons hardly cause the competition itself.

The government of the United States accepts this formulation of the problem and, without excluding the possibility of disarmament, attempts to confront the Soviet Union with a situation in which it must choose between expanding by general war and accepting a *modus vivendi* with the Western world. As a result of this dual American policy, there continues to exist in the Atomic Energy Commission and in the Commission for Conventional Armaments of the United Nations the opportunity to explore the subject of disarmament in much more precise form than either Senator Tydings or Senator McMahon has suggested. To argue that their plans offer any greater hope than those already advanced by the United States is to believe one of two things: either that the Kremlin is motivated by fears that can be overcome through a reiteration of good intentions; or that one of the most complicated antagonisms of world history can be solved by such devices as vague disarmament proposals, propaganda and a purchase price of $50 billion.

The history of the post-war years hardly suggests that either assumption is founded in reality. However painful the consequences, the United States must therefore recognize that there is no simple way to resolve the present world crisis. Expectations on either side of the Iron Curtain are so different, and mistrust so prevalent, that only by creating the conditions in which expansion and subversion become more costly than peace and stability can we hope to reach agreement on topics of such delicacy as disarmament combined with inspection.

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THE UNITED STATES AND POINT FOUR PROBLEMS *by Howard C. Gary*